COMPONENTS: 1. N-Methylmethanamine (dimethyl-amine); C₂H₇N; [124-40-3] 2. N,N-Dimethylformamide; C₃H₇NO; [68-12-2] VARIABLES: Temperature, pressure ORIGINAL MEASUREMENTS: Gerrard, W. Solubility of Gases and Liquids, Plenum 1976, Chapter 10. PREPARED BY: C. L. Young

EXPERIMENTAL VALUES:

T/K	P/mmHg	<i>P</i> /10 ⁵ Pa	Mole fraction of dimethylamine in liquid,
283.15	100	0.133	0.066
	200	0.267	0.155
	300	0.400	0.255
	400	0.533	0.364
	500	0.667	0.490
	600	0.800	0.625
	700	0.933	0.766
	760	1.013	0.848
288.15	760	1.013	0.686
293.15	200	0.267	0.102
	300	0.400	0.160
	400	0.533	0.221
	500	0.667	0.294
	600	0.800	0.375
	700	0.933	0.461
	760	1.013	0.511
298.15	760	1.013	0.412

AUXILIARY INFORMATION ...

METHOD/APPARATUS/PROCEDURE:

Amine was passed into a known weight of pure liquid in a bubbler tube at a total pressure measured by a manometer assembly. The amount of absorbed gas was estimated by weighing. The temperature was manually controlled to within 0.2K.

The apparatus and procedure are described by Gerrard [1,2].

SOURCE AND PURITY OF MATERIALS:

- 1. British Drug Houses or Cambrian Gases sample.
- 2. Purified and attested by conventional procedures.

ESTIMATED ERROR:

 $\delta T/K = \pm 0.1; \quad \delta x/x = \pm 3$ %

(estimated by compiler)

- 1. Gerrard, W.
- J. Appl. Chem. Biotechnol. 1972, 22 623-650.
- 2. Gerrard, W. Solubility of Gases and Liquids, Plenum Press, New York. 1976. Chapter 1.

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COMPONENTS:			ORIGINAL MEASUREMENTS:
 N-Methylmethanamine (dimethylamine); C₂H₇N; 			Gerrard, W.
įί	24-40-3]	2 H 7 N ;	Solubility of Gases and Liquids,
2. Pyr	ridine; C ₅ H ₅ N;	[110-86-1]	Plenum 1976, Chapter 10.
	inoline; C ₉ H ₇ N;	[91-22-5]	
VARIABLE	ES:		PREPARED BY:
	Pressure		C. L. Young
EXPERIM	ENTAL VALUES:		<u> </u>
_ ,_	7	D / 1 0 5 m	Mole fraction of dimethylamine in liquid,
т/к	P/mmHg	<i>P</i> /10 ⁵ Pa	^x (CH ₃) ₂ NH
		Pyridine;	C ₅ H ₅ N; [110-86-1]
293.1	5 700 760	0.933 1.013	0.507 0.564
		Quinoline;	C ₉ H ₇ N; [91-22-5]
293.1		0.133	0.060
	200	0.267	0.126 0.191
	300 400	0.400 0.533	0.191
	500	0.667	0.322
	600	0.800	0.394
	700 760	0.933 1.013	0.472 0.522
 	,		
1			

AUXILIARY INFORMATION

METHOD/APPARATUS/PROCEDURE:

Amine was passed into a known weight of pure liquid in a bubbler tube at a total pressure measured by a manometer assembly. The amount of absorbed gas was estimated by weighing. The temperature was manaully controlled to within 0.2K.

The apparatus and procedure are

The apparatus and procedure are described by Gerrard [1,2].

SOURCE AND PURITY OF MATERIALS:

- 1. British Drug Houses or Cambrian Gases sample.
- 2. Purified and attested by conventional procedures.

ESTIMATED ERROR:

 $\delta T/K - \pm 0.1$; $\delta x/x = \pm 3$ % (estimated by compiler)

- Gerrard, W.
 Appl. Chem. Biotechnol. <u>1972</u>, 22 623-650.
- 2. Gerrard, W. Solubility of Gases and Liquids. Plenum Press, New York. 1976. Chapter 1.

COMPONENTS:	ORIGINAL MEASUREMENTS:
 N-Methylmethanamine (dimethyl-amine); C₂H₇N; [124-40-3] Nitrobenzene; C₆H₅NO₂; [98-95-3] 	Gerrard, W. Solubility of Gases and Liquids, Plenum 1976, Chapter 10.
VARIABLES:	PREPARED BY:
Pressure	C. L. Young

EXPERIMENTAL VALUES:

T/K	P/mmHg	<i>P/</i> 10 ⁵ Pa	Mole fraction of dimethylamine in liquid, "(CH ₃) ₂ NH
293.15	100	0.133	0.053
	200	0.267	0.110
	300	0.400	0.169
	400	0.533	0.233
	500	0.667	0.300
	600	0.800	0.375
	700	0.933	0.456
	760	1.013	0.506

AUXILIARY INFORMATION

METHOD/APPARATUS/PROCEDURE:

Amine was passed into a known weight of pure liquid in a bubbler tube at a total pressure measured by manometer assembly. The amount of absorbed gas was estimated by weighing. The t emperature was manually controlled to within 0.2K.

The apparatus and procedure are described by Gerrard [1,2].

SOURCE AND PURITY OF MATERIALS:

- British Drug Houses or Cambrian Gases sample.
- Purified and attested by conventional procedures.

ESTIMATED ERROR:

 $\delta T/K = \pm 0.1; \quad \delta x/x = \pm 3$ % (estimated by compiler)

- Gerrard, W.
 Appl. Chem. Biotechnol. 1972, 22 623-650.
- 2. Gerrard, W. Solubility of Gases and Liquids. Plenum Press, New York. 1976. Chapter 1.

ORIGINAL MEASUREMENTS:
Gerrard, W.
Solubility of Gases and Liquids,
Plenum 1976, Chapter 10.
PREPARED BY:
C. L. Young

EXPERIMENTAL VALUES:

T/K	P/mmHg	<i>P</i> /10 ⁵ Pa	Mole fraction of dimethylamine in liquid, x (CH $_3$) $_2$ NH
293.15	100	0.133	0.137
273.13	200	0.267	0.253
	300	0.400	0.350
	400	0.533	0.437
	500	0.667	0.515
	600	0.800	0.584
	700	0.933	0.648
	760	1.013	0.687

AUXILIARY INFORMATION

METHOD/APPARATUS/PROCEDURE:

described by Gerrard [1,2].

Amine was passed into a known weight of pure liquid in a bubbler tube at a total pressure measured by a manometer assembly. The amount of absorbed gas was estimated by weighing. The temperature was manually controlled to within 0.2K.

The apparatus and procedure are

SOURCE AND PURITY OF MATERIALS:

- 1. British Drug Houses or Cambrian Gases sample.
- 2. Purified and attested by conventional procedures.

ESTIMATED ERROR:

 $\delta T/K = \pm 0.1;$ $\delta x/x = \pm 3\%$ (estimated by compiler)

REFERENCES:

- 1. Gerrard, W.
- J. Appl. Chem. Biotechnol. $\underline{1972}$, 22 623-650.
- 2. Gerrard, W.

Solubility of Gases and Liquids. Plenum Press, New York. 1976. Chapter 1.

N-Methylmethanamine Solubilities COMPONENTS: ORIGINAL MEASUREMENTS: 1. N-Methylmethanamine Gerrard, W. (dimethylamine); C₂H₇N; [124-40-3] Solubility of Gases and Liquids, 2. Benzonitrile; C₇H₅N; [100-47-0] Plenum 1976, Chapter 10. VARIABLES: PREPARED BY: Temperature, pressure EXPERIMENTAL VALUES: Mole fraction of dimethylamine P/mmHq *P/*10⁵Pa T/K 0.133 283.15 100 200 0.267 0.400 300 400 0.533 500 0.667 600 0.800 700 0.933 760 1.013 293.15 100 0.133

AUXILIARY INFORMATION

0.267

0.400

0.533

0.667

0.800

0.933

1.013

METHOD/APPARATUS/PROCEDURE:

Amine was passed into a known weight of pure liquid in a bubbler tube at a total pressure measured by a manometer assembly. The amount of abosrbed gas was estimated by weighing. The temperature was manually controlled to within 0.2K.

The apparatus and procedure are described by Gerrard [1,2].

200

300

400

500

600

700

760

SOURCE AND PURITY OF MATERIALS:

1. British Drug Houses or Cambrian Gases sample.

C. L. Young

in liquid,

x (CH₃)₂NH

0.100

0.200

0.310

0.424

0.540

0.660

0.780

0.848

0.075

0.150

0.224

0.296

0.368 0.443

0.524 0.576

2. Purified and attested by conventional procedures.

ESTIMATED ERROR:

 $\delta T/K = \pm 0.1; \quad \delta x/x = \pm 3$ % (estimated by compiler)

- 1. Gerrard, W.
- J. Appl. Chem. Biotechnol. 1972, 22 623-650.
- 2. Gerrard, W.
- Solubility of Gases and Liquids. Plenum Press, New York. 1976. Chapter 1.

104		/v-ivietnyimetnana	imine Solubilities
COMPONENTS:			ORIGINAL MEASUREMENTS:
 N-Methylmethanamine (dimethyl- amine); C₂H₇N; [124-40-3] 			Gerrard, W.
			Solubility of Gases and Liquids,
2. 1-Met	hyl-2-nitrobenz	ene	Plenum 1976, Chapter 10.
	trotoluene); C		
VARIABLES:			PREPARED BY:
	Pressure		C. L. Young
EXPERIMENTA	L VALUES:		
			Mole fraction of dimethylamine in liquid,
T/K	P/mmHg	<i>P</i> /10 ⁵ Pa	CH ₃) ₂ NH
000 15	100	0 122	0.060
293.15	100 200	0.133 0.267	0.117
	300 400	0.400 0.533	0.178 0.240
	500 600	0.667 0.800	0.303 0.370
	700 760	0.933 1.013	0.450 0.505
	760	1.015	0.303
		AUXILIARY	INFORMATION
METHOD/APPA	RATUS/PROCEDURE:		SOURCE AND PURITY OF MATERIALS:
of pure 1	passed into a iquid in a bubb	ler tube at a	l. British Drug Houses or Cambrian Gases sample.
cotal pressure measured by a manometer assembly. The amount of absorbed gas was estimated by weighing. The cemperature was manually controlled co within 0.2K. The apparatus and procedure are described by Gerrard [1,2].			2. Purified and attested by conventional procedures.
			ESTIMATED ERROR:
			$\delta T/K = \pm 0.1; \delta x/x = \pm 3\%$
			(estimated by compiler)
			REFERENCES: 1. Gerrard, W. J. Appl. Chem. Biotechnol. 1972, 22 623-650.

2. Gerrard, W.
Solubility of Gases and Liquids.
Plenum Press, New York. 1976.
Chapter 1.

COMPONENTS:

- 1. N-Methylmethanamine (dimethylamine); C2H7N; [124-40-3]
- 2. N-Methylbenzenamine (N-methylaniline); C_7H_9N ; [100-61-8]

ORIGINAL MEASUREMENTS:

Gerrard, W.

Solubility of Gases and Liquids,

Plenum 1976, Chapter 10.

VARIABLES:

Pressure

PREPARED BY:

C. L. Young

EXPERIMENTAL VALUES:

P/mmHg	<i>P/</i> 10 ⁵ Pa	Mole fraction of dimethylamine in liquid, x (CH $_3$) $_2$ NH
200	0.267	0.240
		0.334
		0.414
		0.482
600	0.800	0.547
700	0.933	0.611
760	1.013	0.650
	200 300 400 500 600 700	200 0.267 300 0.400 400 0.533 500 0.667 600 0.800 700 0.933

AUXILIARY INFORMATION

METHOD/APPARATUS/PROCEDURE:

Amine was passed into a known weight of pure liquid in a bubbler tube at a total pressure measured by a manometer assembly. The amount of absorbed gas was estimated by weighing. The temperature was manually controlled to within 0.2K.

The apparatus and procedure are described by Gerrard [1,2].

SOURCE AND PURITY OF MATERIALS:

- 1. British Drug Houses or Cambrian Gases sample.
- 2. Purified and attested by conventional procedures.

ESTIMATED ERROR:

 $\delta_{\rm T}/K = \pm 0.1; \quad \delta_{\rm x}/x = \pm 3$ % (estimated by compiler)

REFERENCES:

Chapter 1.

- J. Gerrard, W. J. Appl. Chem. Biotechnol. 1972, 22 623-650.
- 2. Gerrard, W. Solubility of Gases and Liquids. Plenum Press, New York. 1976.

To Motify in to Manual Miles Contabilities				
ORIGINAL MEASUREMENTS:				
Gerrard, W.				
Solubility of Gases and Liquids,				
Plenum, 1976, Chapter 10.				
PREPARED BY:				
C. L. Young				
Mole fraction of dimethylamine in liquid, ** ** ** ** ** ** ** ** **				
0.815 0.075 0.145 0.220 0.296 0.375 0.452 0.532				

AUXILIARY INFORMATION

METHOD/APPARATUS/PROCEDURE:

Amine was passed into a known weight of pure liquid in a bubbler tube at a total pressure measured by a manometer assembly. The amount of absorbed gas was estimated by weighing. The temperature was manually controlled to within 0.2K.

The apparatus and procedure are described by Gerrard [1,2].

SOURCE AND PURITY OF MATERIALS:

- 1. British Drug Houses or Cambrian Gases sample.
- 2. Purified and attested by conventional procedures.

ESTIMATED ERROR:

 $\delta T/K = \pm 0.1; \quad \delta x/x = \pm 3\%$

(estimated by compiler)

REFERENCES:

- 1. Gerrard, W.
- J. Appl. Chem. Biotechnol. 1972, 22 623-650.
- 2. Gerrard, W.

Solubility of Gases and Liquids. Plenum Press, New York. 1976. Chapter 1.

COMPONENTS: ORIGINAL MEASUREMENTS: Gerrard, W. 1. N-Methylmethanamine (dimethylamine); C2H7N; Solubility of Gases and Liquids, [124-40-31 2. N-Ethylbenzenamine (N-ethyl-Plenum 1976. Chapter 10. aniline); C8H11N; [103-69-5] VARIABLES: PREPARED BY: C. L. Young Pressure

EXPERIMENTAL VALUES:

T/K	P/mmHg	<i>P/</i> 10⁵Pa	Mole fraction of dimethylamine in liquid, $^x({ m CH_3})_2{ m NH}$
293.15	200 300 400 500 600 700 760	0.267 0.400 0.533 0.667 0.800 0.933	0.238 0.332 0.411 0.480 0.547 0.611 0.650

AUXILIARY INFORMATION

METHOD/APPARATUS/PROCEDURE:

Amine was passed into a known weight of pure liquid in a bubbler tube at a total pressure measured by a manometer assembly. The amount of abosrbed gas was estimated by weighing. temperature was manually controlled to within 0.2K. The apparatus and procedure are

described by Gerrard [1,2].

SOURCE AND PURITY OF MATERIALS:

- 1. British Drug Houses or Cambrian Gases sample.
- 2. Purified and attested by conventional procedures.

ESTIMATED ERROR:

 $\delta T/K = \pm 0.1; \quad \delta x/x = \pm 3$ (estimated by compiler)

- 1. Gerrard, W.
- J. Appl. Chem. Biotechnol. 1972, 22 623-650.
- 2. Gerrard, W. Solubility of Gases and Liquids. Plenum Press, New York. 1976. Chapter 1.

168 N-Methylmethanamine Solubilities COMPONENTS: ORIGINAL MEASUREMENTS: 1. N-Methylmethanamine (dimethyl-Gerrard, W. amine); C_2H_7N ; [124-40-3] Solubility of Gases and Liquids, 2. N, N-Dimethylbenzenamine $(N,N-\text{dimethylaniline}); C_8H_{11}N;$ Plenum 1976, Chapter 10. [121-69-7] VARIABLES: PREPARED BY: C. L. Young Temperature, pressure EXPERIMENTAL VALUES:

т/к	P/mmHg	P/10 ⁵ Pa	Mole fraction of dimethylamine in liquid, ** (CH3)2NH
283.15	100	0.133	0.086
	200	0.267	0.180 0.280
	300 400	0.400 0.533	0.280
	500	0.667	0.508
	600	0.800	0.638
	700	0.933	0.780
	760	1.013	0.848
293.15	100	0.133	0.061
2,5,15	200	0.267	0.127
	300	0.400	0.192
	400	0.533	0.257
	500	0.667	0.330
	600	0.800	0.404
	700	0.933	0.485
	760	1.013	0.538

AUXILIARY INFORMATION

METHOD/APPARATUS/PROCEDURE:

Amine was passed into a known weight of pure liquid in a bubbler tube at a total pressure measured by a manometer assembly. The amount of abosrbed gas was estimated by weighing. The temperature was manually controlled to within 0.2K.

The apparatus and procedure are described by Gerrard [1,2].

SOURCE AND PURITY OF MATERIALS:

- 1. British Drug Houses or Cambrian Gases sample.
- 2. Purified and attested by conventional procedures.

ESTIMATED ERROR:

 $\delta T/K = \pm 0.1; \quad \delta x/x = \pm 3$ %

(estimated by compiler)

- Gerrard, W.
 Appl. Chem. Biotechnol. <u>1972</u>, 22 623-650.
- 2. Gerrard, W. Solubility of Gases and Liquids. Plenum Press, New York. 1976. Chapter 1.

ORIGINAL MEASUREMENTS: COMPONENTS: 1. N-Methylmethanamine, Gerrard, W. (dimethylamine); C2H7N; [124-40-3] Solubility of Gases and Liquids, 2. 1-Octanamine (octylamine); Plenum 1976, Chapter 10. $C_8H_{19}N;$ [111-86-4] VARIABLES: PREPARED BY: Temperature, pressure C. L. Young EXPERIMENTAL VALUES:

T/K	P/mmHg	P/10 ⁵ Pa	Mole fraction of dimethylamine in liquid, "(CH ₃) ₂ NH
283.15	100	0.133	0.120
200.15	200	0.267	0.242
	300	0.400	0.363
	400	0.533	0.486
	500	0.667	0.603
	600	0.800	0.713
	700	0.933	0.825
	760	1.013	0.888
293.15	100	0.133	0.093
	200	0.267	0.183
	300	0.400	0.266
	400	0.533	0.347
	500	0.667	0.428
	600	0.800	0.506
	700	0.933	0.583
	760	1.013	0.626

AUXILIARY INFORMATION

METHOD/APPARATUS/PROCEDURE:

Amine was passed into a known weight of pure liquid in a bubbler tube at a total pressure measured by a manometer assembly. The amount of absorbed gas was estimated by weighing. temperature was manually controlled to within 0.2K. The apparatus and procedure are

described by Gerrard [1,2].

SOURCE AND PURITY OF MATERIALS:

- 1. British Drug Houses or Cambrian Gases sample.
- Purified and attested by conventional procedures.

ESTIMATED ERROR:

 $\delta T/K = \pm 0.1; \quad \delta x/x = \pm 3$ %

(estimated by compiler)

- 1. Gerrard, W.
- J. Appl. Chem. Biotechnol. 1972, 22 623-650.
- 2. Gerrard, W. Solubility of Gases and Liquids. Plenum Press, New York. 1976. Chapter 1.

170 N-Methylmethanamine Solubilities ORIGINAL MEASUREMENTS: COMPONENTS: Gerrard, W. 1. N-Methylmethanamine (dimethylamine); C_2H_7N ; [124-40-3] Solubility of Gases and Liquids, 2. N, N-Diethylbenzenamine (N, N-diethylaniline); C₁₀H₁₅N; Plenum 1976, Chapter 10. [91-66-7] VARIABLES: PREPARED BY: C. L. Young Pressure EXPERIMENTAL VALUES:

T/K	P/mmHg	<i>P</i> /10 ⁵ Pa	Mole fraction of dimethylamine in liquid, $^{x}({ m CH_3})_2{ m NH}$
293.15	100	0.133	0.072
	200	0.267	0.141
	300	0.400	0.211
	400	0.533	0.281
	500	0.667	0.354
	600	0.800	0.429
	700	0.933	0.510
	760	1.013	0.557

AUXILIARY INFORMATION

METHOD/APPARATUS/PROCEDURE:

Amine was passed into a known weight of pure liquid in a bubbler tube at a total pressure measured by a manometer assembly. The amount of absorbed gas was estimated by weighing. The temperature was manually controlled to within 0.2K.

The apparatus and procedure are described by Gerrard [1,2].

SOURCE AND PURITY OF MATERIALS:

- 1. British Drug Houses or Cambrian Gases sample.
- 2. Purified and attested by conventional procedures.

ESTIMATED ERROR:

 $\delta T/K = \pm 0.1;$ $\delta x/x = \pm 3%$ (estimated by compiler)

- 1. Gerrard, W. J. Appl. Chem. Biotechnol. 1972, 22 623-650.
- 2. Gerrard, W. Solubility of Gases and Liquids. Plenum Press, New York. 1976. Chapter 1,